

### **REMARKS**

Applicants would like to thank the Examiner for careful consideration of this application and continued patience in its prosecution. Claims 1-12 are pending in the application. Claims 1 and 8 have been amended. Support for all amendments can be found in the specification as originally filed. Specifically, support for the amendments to Claims 1 and 8 can be found on page 2, paragraph 0052 of the application as published. No new matter has been added.

#### **Rejection under 35 USC 103**

Claims 1-12 stand rejected under 35 USC 103(a) as being unpatentable over US Patent No. 4,079,028 to Emmons et al. (hereinafter "Emmons").

The Examiner alleges that the polyurethane thickeners of amended independent Claims 1 and 8 are commensurate in scope with those of Emmons. Applicants respectfully disagree.

It is well settled that to establish a *prima facie* case of obviousness, the USPTO must satisfy all of the following requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or to combine references. *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Second, the proposed modification has a reasonable expectation of success, as determined from the vantage point of one of ordinary skill in the art at the time the invention was made. *Amgen v. Chugai Pharmaceutical Co.* 18 USPQ 2d 1016, 1023 (Fed Cir, 1991), *cert. denied* 502 U.S. 856 (1991). Third, the prior art reference or combination of references must teach or suggest all of the limitations of the claims. *In re Wilson*, 165 USPQ 494, 496, (CCPA 1970).

Applicants submit that Emmons fails to teach or suggest a polyurethane thickener made by the process of amended independent Claims 1 and 8, and hence, Emmons fails to teach or suggest all of the limitations of amended independent Claims 1 and 8. In particular, Emmons fails to teach or suggest the step of "the partial reaction of the polyethers a1) with at least one organic isocyanate having a functionality of  $\geq 2$  and

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about 10 mole % to 50 mole % of the polyethers a1) are reacted with isocyanates". The Examiner's assertion that the reaction of diisocyanate with polyether polyols with 3 OH groups will inherently produce polyether polyols with 4 or more OH groups suggesting that the limitations of independent Claims 1 and 8 serve only to point out intermediates that are inherent to the process disclosed by Emmons is without merit. While statistically there may be a number of polyether polyols that are joined to form polyether polyols with functionality of  $\geq 4$  in a reaction containing polyether polyol and polyisocyanates, the object of component A) of the amended independent Claims 1 and 8 is a mixture containing about 10 mole % to 50 mole % polyether polyols with average functionality  $\geq 4$ , the necessary consequence of reacting about 10 mole % to 50 mole % polyether polyols with average functionality of  $\geq 3$  with polyisocyanates. As conceded by the Examiner, reactions such as those alluded to by the Examiner would produce only a fraction of polyether polyols with average functionality of  $\geq 4$  described in amended independent Claims 1 and 8. Thus, the polyurethane thickener and method of making the polyurethane thickener of amended independent Claims 1 and 8 provide for a much higher proportion of polyether polyols of component A) having an average functionality of  $\geq 4$  than that of Emmons. The above limitations serve to clarify this.

Moreover, the polyurethanes of amended independent Claims 1 and 8 show unexpected results. In particular, the polyurethane thickeners of amended independent Claims 1 and 8 have improved low shear viscosity over those of Emmons. Examples of polyurethane thickeners in latex paints described in amended independent Claims 1 and 8 and their viscosities determined at low shear are provided in Examples 1-9 of Table 1 of the specification as originally filed. The viscosities at low shear for these Examples is between 21100-35000 mPa·s or 174 to 182 KU. Emmons provides examples of similar polyurethane thickeners in latex paint in Table 16. The viscosity of these paints has been determined at low viscosity to be between 61 and 141 KU. Clearly, the polyurethane thickeners of independent Claims 1 and 8 display improved viscosity over Emmons and, moreover, establishes that Emmons does not encompass the polyurethanes of the present claimed invention. Therefore, Emmons cannot render independent Claims 1 and 8 obvious.

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Furthermore, Emmons provides no teaching or suggestion that would make it obvious to one of ordinary skill in the art to prepare a mixture of polyether polyols recited in component A) of amended independent Claims 1 and 8 to produce a polyurethane thickener with improved low shear viscosity. Emmons fails to teach or suggest the additional step in the producing of polyurethanes of preparing a polyether polyol mixture with an average functionality of  $\geq 4$  by a partial reaction of about 10 mole % to 50 mole % of polyether polyols with an average functionality of  $\geq 3$  with isocyanates with an average functionality of  $\geq 2$ , nor would it be obvious from the disclosure of Emmons to use such a mixture to increase the high shear viscosity of the polyurethane thickener.

Accordingly, Emmons fails to teach or suggest all of the limitations of amended independent Claims 1 and 8, the polyurethane thickeners described in independent Claims 1 and 8 provide improved properties over Emmons. Therefore, Emmons fails to render obvious the amended independent Claims 1 and 8.

Claims 2-7 and 9-12 depend from and add further limitations to amended independent Claims 1 and 8 and are deemed to be allowable for at least the same reasons in connection with amended independent Claims 1 and 8. Reconsideration is respectfully requested.

#### Double Patenting

Claims 1-12 stand provisionally rejected under the judicially created doctrine of obviousness type double patenting over US Patent Application No. 10/091960 to Wamprecht et al. (hereinafter "Wamprecht '960").

Applicants submit that both the present application and Wamprecht '960 are pending. Allowable subject matter, notwithstanding the provisional obviousness-type double patenting rejection, has not been indicated in either application. Where a provisional rejection under the judicially created doctrine of obviousness-type double patenting is named between two applications, MPEP 104(I)(B) states that "if the 'provisional' double patenting rejection in one application is the only rejection remaining in the application, the examiner should then withdraw that rejection and permit the application to issue as a patent, thereby converting the provisional rejection in the other

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application in a double patenting rejection at the time the one application issues as a patent." Therefore, it is not evident which of the pending applications will become allowable first, and any action by Applicants with this regard is premature.


Claims 1-12 stand rejected under the judicially created doctrine of obvious-type double patenting over Claims 1-12 of US Patent No. 6,642,302 to Wamprecht et al. (hereinafter "Wamprecht '302").

Applicants respectfully traverse this ground for rejection. However, Applicants are submitting a terminal disclaimer in compliance with 37 CFR 1.321(c) hereto. Accordingly, Applicants request withdrawal of this ground of rejection.

Applicants believe that in view of the above amendments and remarks Claims 1-12 are in condition for allowance and respectfully request notice to such effect. Should the Examiner have any questions regarding this Application he is invited to initiate a phone conversation with the undersigned at his convenience.

Respectfully submitted,

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